

their preference (Table 1). Water was not given. It was noticed that fruits of *Xanthium indicum* was their prime choice.

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### 19. SALTWATER CROCODILE *CROCODYLUS POROSUS* IN ANDHRA PRADESH

(With a text-figure)

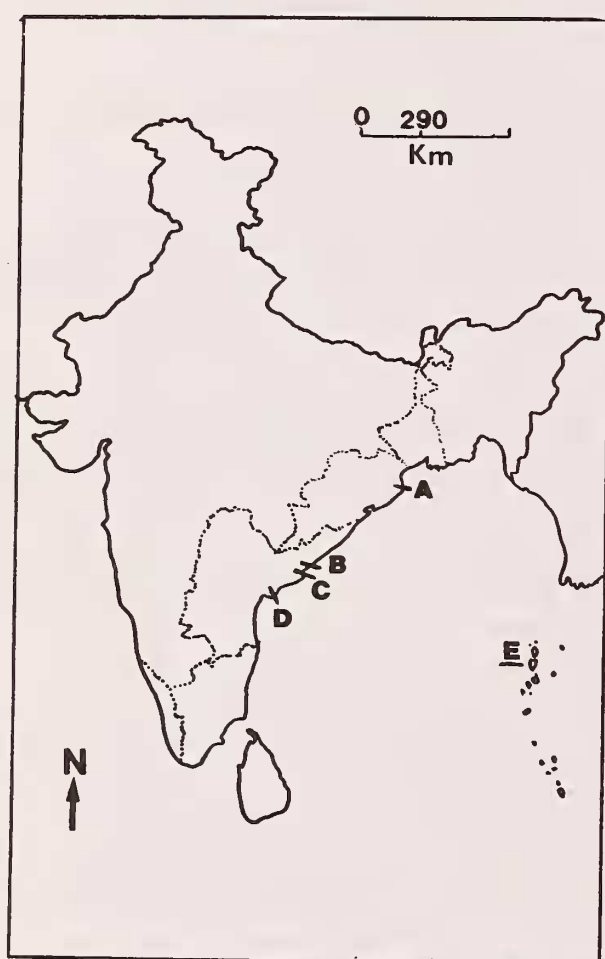


Fig. 1. Map of India showing capture points of saltwater crocodile. A. Gahirmatha beach, B. Capture point-1989 (this report), C. Coringa Wildlife Sanctuary, D. Capture point-1979, E. Andaman islands.

On 18 January 1989 a juvenile saltwater crocodile *Crocodylus porosus* (1.5 m size) was caught in the sea by some fishermen near Moolapeta village, East Godavari District, Andhra Pradesh. The capture point was 25 km north of the Coringa Wildlife Sanctuary (Fig. 1). The crocodile was brought to the village, photographed and later taken possession of by the Andhra Pradesh Forest Department.

In India the species is present in Orissa and West

Bengal in the mainland and in the Andaman and Nicobar Islands (Bustard and Choudhury 1980b, Kar 1981, Singh 1986). By 1975, the species was extinct in most of its former ranges in India including Kerala, Tamil Nadu and Andhra Pradesh (Bustard and Choudhury 1980b).

In 1978, a total of 3 saltwater crocodiles (1.2 m size) were released in the Coringa Wildlife Sanctuary (Godavari delta) (Bustard and Choudhury 1980b) as a part of the programme on crocodile rehabilitation. Unpublished reports revealed that these crocodiles were killed immediately by the local fishermen. There has been no further release in the Sanctuary since then. Bustard and Choudhury (1980a) reported that a 3.3 m saltwater crocodile caught in Krishna Estuary, Andhra Pradesh, on 11 January 1979 may have come from the Andamans (Fig. 1). Whitaker (1982) reported that a male *C. porosus* 2.8 m in length and 80 kg in weight was captured by fishermen in Karaikal, Tamil Nadu. He assumed that the crocodile might have come from Trincomalee on the east coast or Puttalam on the west coast of Sri Lanka, the nearest *porosus* populations to Tamil Nadu. He pointed out that saltwater crocodiles cross great gaps of sea between islands but coastal migrations are probably more frequent.

Kar and Rao (1985), while reporting the unusual sighting of a gharial *Gavialis gangeticus* on Gahirmatha beach (Fig. 1), stated that the sea currents on this coast are from south to north, which helped the gharial to move northwards. If this is true, then the saltwater crocodile caught off the Andhra coast at Moolapeta in January 1989 might have come from Andaman islands, travelling approximately 1100 km through open sea, an inference which is similar to the conclusion by Bustard and Choudhury (1980a). Both instances occurred during the month of January (1979 and 1989). The sea currents between Andamans and Andhra Pradesh during January may have helped the crocodiles to travel to the Andhra coast, and the possibility of the crocodile coming from Orissa and West

Bengal may be ruled out due to the opposite direction of water currents.

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R.J. RAO

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## 20. OCCURRENCE OF CONGENITAL BLINDNESS IN GHARIAL *GAVIALIS GANGETICUS* (REPTILIA: CROCODYLIA)

### INTRODUCTION

During 1975 out of 70 eggs of gharial *Gavialis gangeticus* incubated at the Gharial Research and Conservation Unit, Tikerpada, two hatchlings were blind (Subba Rao and Bustard 1979). During 1976, 60 eggs were incubated at Katerniyaghat, which produced one blind gharial (Singh and Tandan 1978). Again at Tikerpada, during 1976 three blind gharials were produced from 140 eggs (Singh and Bustard 1982a). All these instances relate to eggs which originated from Gangetic rivers of Kamali-Girwa and Kali-Narayani-Gandak in Nepal or in India, along the Indo-Nepal border. This feature had then led us to suggest the possible presence of a deleterious 'blind' gene in the populations of gharial in these rivers.

Here we present information recorded after the hatching of a blind gharial in captivity at Nandankanan Biological Park, Orissa. We also discuss the general frequency of occurrence of blindness reported for the species hitherto. Retarded growth in blind gharial, as observed by Singh and Bustard (1982b) has also been observed at Nandankanan.

### RESULTS

Captive gharials at Nandankanan bred for the first time during 1980. There were two females, Juli and Mili, both procured from river Mahanadi during 1963 and 1964. The male, with an uncertain origin, was received from the Frankfurt Zoo in 1979.

On 20 March 1982, Mili laid 28 eggs. 12 were left for incubation *in situ* and 16 were shifted for hatchery-incubation. In the breeding pen six young ones hatched on 29 May 1982. These included one blind hatchling. All six, along with eight others hatched in the hatchery on 2 June, were shifted to hatchling pools for rearing under identical

husbandry conditions.

The blind gharial did not have any trace of the eye and fitted the description and photograph given by Singh and Bustard (1982a). On 10 August 1988 the blind gharial died when its SV length was 59 cm, total body length 120 cm and body weight 4.800 kg.

### DISCUSSION

**Frequency of blindness:** The frequency of occurrence of blindness in gharial as per the published information (Singh and Tandan 1978, Subba Rao and Bustard 1979, Singh and Bustard 1982a) and the present observation are 1.67% at Girwa (Katerniyaghat), 2.86% and 2.14% at Tikerpada, 0.42% at Chitwan and 3.57% at Nandankanan. Only the last record is from captive breeding while the others are from eggs collected from the wild. The mean frequency is  $2.1\% \pm 1.2\%$  of the total eggs incubated.

Though the origin of the male which participated in captive breeding at Nandankanan is not known, its origin from the Gangetic system along Nepal/India terai cannot be ruled out. If such an origin is correct then the possible presence of a deleterious 'blind' gene in the concerned region can gain further ground. If the origin is from somewhere else, then either the male or the female could have been responsible for the blindness. Since no further blindness in gharial have been recorded from any of the places mentioned earlier, it is argued that 'blindness' is one of the 12 congenital defects recorded for the species by Singh and Bustard (1982a) and can occur at any time like any other defect. However, it is an observed fact that blind gharials need to be helped out of the egg and the whole process of captive management and gharial conservation had received greater attention and care during the period from which all published reports have come. Therefore, the possibility of 'having missed to help a blind gharial